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10/821,913	04/12/2004	Hideki Sato	P9219.0007	2455

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DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP

Steven I. Weisburd

41st Floor

1177 Avenue of the Americas

New York, NY 10036-2714

EXAMINER

SCHINDLER, DAVID M

ART UNIT

PAPER NUMBER

2862

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/821,913	SATO ET AL.	
	Examiner	Art Unit	
	David Schindler	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/4/04, 9/3/04, 9/8/05.</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The reference Cite No. CA (Hill et al., Sensors and Actuators A, Vol. 59, pgs. 30-37 (1997)) of the Information Disclosure of 9/8/2005 does not have the title of the reference listed on the Information Disclosure Statement. For the record, the title of this reference that was considered by the Examiner is "A giant magnetoresistive magnetometer."

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 2-8 are objected to because of the following informalities:

As to Claims 2 and 4,

It is noted to applicant that the phrase "magnetoresistance effect elements are provided in a single plane", appears in one form or another, in the above claims (see Lines 9-10 Claim 2 and Lines 9-10 of Claim 4). As a plane is a two-dimensional space,

Art Unit: 2862

and the elements are three-dimensional, it is not clear how the elements can be provided in the plane. For the purpose of examination, the Examiner is interpreting this phrase to mean that at least part of the elements must exist in the plane.

It is further noted to applicant that there appears to be clarity and antecedent issues with the claims. The Examiner has provided a non-exhaustive list of issues as show below. Applicant is respectfully requested to correct these and any other issues that may exist with respect to the claims.

As to Claim 3,

The phrase "including four of said magnetoresistance effect elements" on lines 1-2 is unclear as it is not clear if these elements are in addition to the "plurality of said magnetoresistance effect elements" mentioned on line 9 of Claim 1, or are further limiting this phrase.

As to Claim 4,

It is noted to applicant that it appears that applicant is attempting to claim Figure 42 in this claim. Therefore, the Examiner has provided a non-exhaustive list of clarity and other issues. Applicant is respectfully requested to correct these and any other issues that may exist with respect to the claim.

The phrase "the positive direction of the X-axis" on lines 26-27 lacks antecedent basis.

The phrase "the positive direction of the Y-axis" on lines 38-39 lacks antecedent basis.

It is noted to applicant that the X-axis and the Y-axis have not been defined with respect to the claim. Therefore, it is not clear what constitutes a negative direction or a positive direction of the X-axis and the Y-axis.

As to Claims 4, 5, 7, and 8,

The phrase "the Y-axis direction" appears throughout the claims, for example on line 16 of Claim 4, and lacks antecedent basis. Applicant is respectfully requested to correct the above and any other such issues that may appear in the claims.

The phrase "the X-axis direction" appears throughout the claims, for example on line 40 of Claim 4, and lacks antecedent basis. Applicant is respectfully requested to correct the above and any other such issues that may appear in the claims.

As to Claim 6,

The phrases "the positive direction of the X-axis" on lines 6-7, "the positive direction of the Y-axis" on lines 9-10, and "the negative direction of the Y-axis" on lines 12-13 lack antecedent basis.

As to Claim 8,

The phrase "the pinned magnetization direction" on lines 4 and 9 lacks antecedent basis.

The phrases "these magnetoresistance effect elements" on lines 4-5 and the phrase "the magnetoresistance effect elements" on lines 9-10 lack antecedent basis. The reason for this is not that is not clear which group the above phrases refer back to.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to the above claim, it is noted that there appears to be a few phrases that appear to be broader than originally disclosed, and therefore appear to introduce new matter. An example includes the phrase "said first element's pinned layer in a direction of the X-axis" on lines 17-18. It appears that applicant is attempting to claim (61) from Figure 42, in which the pinned layer direction is disclosed to be in the negative X-axis direction. Please see Figure 42 and page 24 of the specification with regard to this issue, as well as Claim 6. If the broader version of the claim has support in the specification, applicant is respectfully requested to bring this to the Examiner's attention.

Applicant is respectfully requested to correct the above and any other such issues that may appear in the claims.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2862

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is noted that in the above claims, applicant uses such phrases as “generally square shape” (see Lines 10-11 of Claim 1 for example), “in a neighborhood” (see Lines 13-14 of Claim 4 for example), “a little below” (see Line 15 of Claim 4 for example), “generally central part of the chip” (see Line 15 of Claim 4 for example), and “a little above” (see Line 21 of Claim 4 for example) which render the claims indefinite and unclear as these phrases have not been defined. Applicant is respectfully requested to correct the above and any other such issues that may appear in the claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 2-8 are rejected under 35 U.S.C. 102(e) as being anticipated by ADELERHOF et al. (herein referred to as “ADELERHOF”) (WO 00/79298).

As to Claim 2,

ADELERHOF discloses a magnetoresistance effect element that contains a free layer and a pinned layer whose magnetization direction is pinned, the magnetoresistance effect element having a resistance value that changes in accordance with a relative angle formed by the magnetization direction of the pinned layer and a magnetization direction of the free layer ((Page 1, Lines 9-29) and (Page 2, Lines 1-8) and (note Applicant's Specification, Page 1, Lines 20-28)), the magnetic sensor being formed in such a manner that a plurality of the magnetoresistance effect elements are provided in a single plane on a single chip having a generally square shape, the magnetoresistance effect elements are placed symmetrically with respect to center lines of the generally square chip, and the pinned layers of at least two of the plurality of magnetoresistance effect elements have the pinned magnetization directions that cross each other ((Page 5, Lines 23-29) and (Page 13, Lines 10-20) and (Figures 10 and 11)).

Note that the Examiner is interpreting the center lines to be two overlapping parallel lines running from the top to the bottom at the center of Figure 10. Also note that the Examiner is interpreting the point at which the magnetoresistive element meanders (shown in Figures 10 and 11) come into contact with the substrate (see Page 5, Lines 23-29) as the point, at the least, where the magnetoresistive elements are provided in a single plane. This reasoning applies to all claim rejections.

As to Claim 3,

ADELERHOF discloses four of the magnetoresistance effect elements constructing a X-axis (Examiner's reference ((1), (2), (3), and (4)) by full bridge

connection of the four elements (note that each of the elements are connected in a full bridge, the pinned magnetization directions of the pinned layers of the four elements being parallel to each other (Note the magnetization direction shown in Figure 10 in combination with the above elements in Figure 11).

As to Claim 4,

ADELERHOF discloses a first through an eight element (Figures 10 and 11), each of the elements containing a free layer and a pinned layer whose magnetization direction is pinned and each having a resistance value that changes in accordance with a relative angle formed by a magnetization direction of the pinned layer and a magnetization direction of the free layer ((Page 1, Lines 9-29) and (Page 2, Lines 1-8) and (note Applicant's Specification, Page 1, Lines 20-28)), the magnetic sensor being formed in such a manner that the magnetoresistance effect elements are provided in a single plane on a single chip having a generally square shape having sides along an X-axis and a Y-axis that are perpendicular to each other in a plan view (Figures 10 and 11); (a) the first element (Examiner's Reference (1)) being formed in a neighborhood of an end of the chip in a negative direction of the X-axis and a little below a generally central part of the chip in the Y-axis direction, and having a pinned magnetization direction of the first element's pinned layer in a direction of the X-axis; (b) the second element (Examiner's Reference (2)) being formed in a neighborhood of an end of the chip in a negative direction of the X-axis and a little above a generally central part of the chip in the Y-axis direction, and having a pinned magnetization direction of the second element's pinned layer in the direction of the X-axis; (c) the third element (Examiner's

Art Unit: 2862

Reference (3)) being formed in a neighborhood of an end of the chip in the positive direction of the X-axis and a little above a generally central part of the chip in the Y-axis direction, and having a pinned magnetization direction of the third element's pinned layer in the direction of the X-axis; (d) the fourth element (Examiner's Reference (4)) being formed in a neighborhood of an end of the chip in the positive direction of the X-axis and a little below a generally central part of the chip in the Y-axis direction, and having a pinned magnetization direction of the fourth element's pinned layer in the direction of the X-axis; (e) the fifth element (Examiner's Reference (5)) being formed in a neighborhood of an end of the chip in the positive direction of the Y-axis and a little to the left of a generally central part of the chip in the X-axis direction, and having a pinned magnetization direction of the fifth element's pinned layer in the direction of the Y-axis; (f) the sixth element (Examiner's Reference (6)) being formed in a neighborhood of an end of the chip in the positive direction of the Y-axis and a little to the right of a generally central part of the chip in the X-axis direction, and having a pinned magnetization direction of the sixth element's pinned layer in the direction of the Y-axis; (g) the seventh element (Examiner's Reference (7)) being formed in a neighborhood of an end of the chip in the negative direction of the Y-axis and a little to the right of a generally central part of the chip in the X-axis direction, and having a pinned magnetization direction of the seventh element's pinned layer in the direction of the Y-axis; and (h) the eighth element (Examiner's Reference (8)) being formed in a neighborhood of an end of the chip in the negative direction of the Y-axis and a little to the left of a generally central part of the chip in the X-axis direction, and having a pinned magnetization direction of

the eighth element's pinned layer in the direction of the Y-axis ((Page 5, Lines 23-29) and (Page 13, Lines 10-20) and (Figures 10 and 11)).

(With respect to the above Claim, Please note Figures 10 and 11, and Page 13, Lines 10-20. Note the direction of magnetization of the compact double Wheatstone bridge of Figure 10, and that Figure 11 has a matrix of compact double Wheatstone bridges. To assist in identifying what the Examiner is interpreting the different elements to be, the Examiner has provided a marked up Figure 11. Also note that the Examiner is interpreting the intersection of the X-axis and Y-axis to occur at the center of Figure 11. To illustrate this, the Examiner has drawn a line representing the Y-axis, and has used the dotted line running from left to right in the middle of the Figure as the X-axis. Finally, with respect to the elements (Examiner's reference (7) and (8)) in the negative Y-axis direction (such as the seventh and eighth element which appear to be representing (74) and (73) of Applicant's Figure 42), please note the bridges that (8) and (7) are apart of are inverted to that which is shown in Figure 10. In this bridge, given the magnetization direction of disclosed in Figure 10, the magnetization direction of the top middle elements would be opposite to that shown in Figure 10.)

As to Claim 5,

ADELERHOF discloses the first to fourth elements construct an X-axis magnetic sensor for detecting a magnetic field in the X-axis direction by full bridge connection of the first to fourth elements (Figure 11 / note that each of the above elements are connected in a full bridge), and the fifth to eighth elements construct a Y-axis magnetic sensor for detecting a magnetic field in the Y-axis direction by full bridge connection of

the fifth to eighth elements (Figure 11 / note that each of the above elements are connected in a full bridge).

As to Claim 6,

ADELERHOF discloses (a) the pinned magnetization direction of the pinned layer of the first and the second elements are in the negative direction of the X-axis; (b) the pinned magnetization direction of the pinned layer of the third and the fourth elements are in the positive direction of the X-axis; (c) the pinned magnetization direction of the pinned layer of the fifth and the sixth elements are in the positive direction of the Y-axis; and (d) the pinned magnetization direction of the pinned layer of the seventh and the eighth elements are in the negative direction of the Y-axis ((Figures 10 and 11) and (Page 13, Lines 10-20)).

As to Claim 7,

ADELERHOF discloses a plurality of magnetoresistance effect elements (Figure 10), each element containing a pinned layer and a free layer and having a resistance value that changes in accordance with a relative angle formed by a magnetization direction of the pinned layer and a magnetization direction of the free layer: (a) the magnetic sensor being formed in such a manner that the magnetoresistance effect elements are provided on a single chip; (b) an X-axis group of the magnetoresistance effect elements constructing a X-axis magnetic sensor for detecting a magnetic field in the X-axis direction (elements along the 0 degree axis of the right bridge of Figure 10); and (c) a Y-axis group of the magnetoresistance effect elements constructing a Y-axis magnetic sensor for detecting a magnetic field in the Y-axis direction perpendicular to

Art Unit: 2862

the X-axis (elements along the 90 degree axis of the right bridge of Figure 10) ((Figure 10) and ((Page 1, Lines 9-29) and (Page 2, Lines 1-8) and (note Applicant's Specification, Page 1, Lines 20-28) and (Page 5, Lines 23-29)).

Note that the Examiner is interpreting the 0 degree axis to be the X-axis and the 90 degree axis to be the Y-axis.

As to Claim 8

ADELERHOF discloses (a) the X-axis group of magnetoresistance effect elements construct the X-axis magnetic sensor by full bridge connection, and the pinned magnetization directions of these magnetoresistance effect elements are in the X-axis direction; and (b) the Y-axis group of magnetoresistance effect elements construct the Y-axis magnetic sensor by full bridge connection, and the pinned magnetization directions of the magnetoresistance effect elements are in the Y-axis direction (Figure 10).

Note that elements of the X-axis and the elements of the Y-axis are connected to form a full bridge (Page 5, Lines 23-29).

Double Patenting

11. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in

scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

12. Claim 7 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 11 of copending Application No. 10/846,554. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The '554 reference discloses a plurality of magnetoresistance effect elements, each element containing a pinned layer and a free layer and having a resistance value that changes in accordance with a relative angle formed by a magnetization direction of the pinned layer and a magnetization direction of the free layer (Note Lines 1-8 of Claim 8), the magnetic sensor being formed in such a manner that the magnetoresistance effect elements are provided on a single chip (Note Lines 9-11 of Claim 8), an X-axis group of the magnetoresistance effect elements constructing a X-axis magnetic sensor for detecting a magnetic field in the X-axis direction (Note Lines 2-5 of Claim 11), and a Y-axis group of the magnetoresistance effect elements constructing a Y-axis magnetic sensor for detecting a magnetic field in the Y-axis direction perpendicular to the X-axis (Lines 6-9 of Claim 11).

Note that the first through fourth elements constitute the X-axis group, and the fifth through eighth elements constitute the Y-axis group. Also note that a Y-axis direction is inherently perpendicular to an X-axis direction.

13. Claim 8 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 12 of copending Application No. 10/846,554. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Note that the first through fourth elements constitute the X-axis group, and the fifth through eighth elements constitute the Y-axis group.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 2 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 4 of copending Application No.

10/846,554. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 4 of the '554 application discloses all of Claim 2 of the current application, except that Claim 4 of the '554 application does not disclose that a plurality of the magnetoresistance effect elements are provided in a single plane.

It would have been obvious to a person of ordinary skill in the art to modify Claim 4 of the '554 application to include that a plurality of the magnetoresistance effect elements are provided in a single plane in order to evenly output a signal when exposed to a magnetic field.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claim 3 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 7 of copending Application No. 10/846,554. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 7 of the '554 application discloses all of the features of Claim 3.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17. Claim 4 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 8 of copending Application No.

10/846,554. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 8 of the '554 application discloses all of Claim 4 of the current application, except that Claim 8 of the '554 application does not disclose that the magnetoresistance effect elements are provided in a single plane.

It would have been obvious to a person of ordinary skill in the art to modify Claim 8 of the '554 application to include that the magnetoresistance effect elements are provided in a single plane in order to evenly output a signal when exposed to a magnetic field.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

18. Claim 5 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 11 of copending Application No. 10/846,554. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 11 of the '554 application discloses all of the features of Claim 5.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

19. Claim 6 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 12 of copending Application No.

10/846,554. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Claim 12 of the '554 application discloses all of the features of Claim 6.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

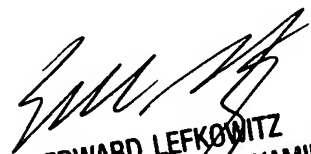
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2862


David Schindler
Examiner
Art Unit 2862

DS


EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800